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Cyathocline purpurea (Asteraceae): an unexplored wetland herb of Bonai Forest Division, Odisha

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ABSTRACT

Floral exploration is getting importance more after COVID-19 pandemic. Researchers are searching unexplored plant species as a source of bioactive compounds as well as to understand ecology and climate change. *Cyathocline purpurea*, is one such wetland herb abundantly available in all ranges of Bonai Forest Division. It is unexplored and its significance remains yet to be documented. Therefore, a survey was made to understand its ecology and uses among the locals. The present study revealed that it could be the bio-indicator of perennial stream and source agent for the formulation of new drugs.

Keywords: Perennial stream, Asteraceae, Wetland, Unexplored plants

Pandemic COVID-19 brings re-attention towards the traditional therapeutic systems and unexplored plants to formulate effective drugs and to fight against Anti-Microbial resistance & novel lethal diseases. Researchers throughout the world are searching new plants or unexplored plants to formulate the nutraceutical and at the same time, also looking out about the bio-indicator plants to understand the ecological relationship with other taxa and impacts of climate change. Keeping this in view, an attempt has been made to enumerate the species which are yet to be explored and indicating some ecological indexes from Bonai Forest Division, Odisha. During a survey in 2021-2022, authors found a wetland herb usually growing near perennial streams of all seven ranges. It was *Cyathocline purpurea* (Figure 2) belonging to the family Asteraceae. It is decumbent and aromatic herb. Leaves are pinnatisect or pinnatifid. Before flowering it looks like a wetland fern. Heads are about 5.5 mm diameter and bright rose-purple coloured. Disc florets are stout with simple style. The stem of the plant is hairy. It grows on rocks, in & around rocks and boulders in perennial streams and at times are also found along the edges of the streams (Figure 1). It was noticed that, it also grew near the catchment of Brahmani River. In most of the ranges of Bonai Forest Division, it indicates the presence of water sources in hilly regions. Hence, it could be the bio-indicator of perennial streams. It could also be helpful to rejuvenate the perennial streams in the near future. Recently Kumar et al.

(2022) reported it as an indicator plants of perennial stream. After discussion with a local community, it was observed that this species is not used as a medicine or food. It shows its unexplored category in study areas. Available literature from other states revealed its medicinal values.



Figure 1: Habitat of *Cyathocline purpurea* in Bonai Forest Division, Odisha



Figure 2: Morphology of *Cyathocline purpurea*, a) Habit; b) Leaves; c) Flowers

Joshi et al. (2013) reported the antimicrobial activities of oil of *Cyathocline purpurea*. Parab and Vaidya (2014) reported its antihelmintic activity. Javir et al. (2019) reported anticancer activity of its plant parts. The above literature shows that there is a lack

of study on its traditional uses, medicinal uses, pharmacological uses and ecological values. Therefore, present study recommends that the plant should be taken for evaluation of its bioactivity to formulate new drugs against contemporary and future health problems. Its availability also indicates that the associate species could be the biological indicators having sound ecological importance. Further, exploration cum pharmacological evaluation is needed.

Ethical approval

Cyathocline purpurea (Asteraceae) herb from Bonai Forest Division, Odisha was used in the study. The ethical guidelines for plants & plant materials are followed in the study for sample collection & identification.

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Conflicts of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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